



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,660	09/28/2000	Kent D Henry	42074-00240	7946

7590

02/24/2004

Marsh Fischmann & Breyfogle LLP  
3151 South Vaughn Way  
Suite 411  
Aurora, CO 80014

EXAMINER

JACKSON, ANDRE K

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/672,660

Applicant(s)

HENRY ET AL.

Examiner

André K. Jackson

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 86-186 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 86-97, 99-118, 120-124, 126-137, 139-147, 149-160, 162-166, 168-171 and 175-186 is/are rejected.
- 7) ☒ Claim(s) 98, 119, 125, 138, 148, 161 and 167 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 13.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 86,87,94,99,100,102-106,108,115,120,124,134,139,143-147,157,162,166,168,169,180,181,185 and 186 are rejected under 35 U.S.C. 102(b) as being anticipated by Dickey et al.

Regarding claim 86, Dickey et al. disclose in "Modular water quality apparatus and method" an elongated with first and second ends, where the second end includes an opening sized to receive and provide access to one or more energy storage units insertable in; a computing unit positioned in the elongated housing and connectable to at least one sensor which is configured to provide a sensor reading of at least one monitored condition, the sensor reading having a new sensor output signal including sensor reading data corresponding to the at least one monitored condition, the computing unit being configured to receive and process the sensor output signal; a main circuit board positioned within the elongated housing, the main circuit board including at least one electrical contact one

or more electrodes of the one or more energy storage units components upon insertion through the opening of the second end and an electrical assembly including the at least one electrical contact and an electrical circuit configured to conduct electrical signals between the second end of the housing and the computing unit (Figures 1-4).

Regarding claim 87, Dickey et al. disclose a cable component for engaging and disengaging the second end of the elongated housing where engagement of the cable component with second end establishes a connection with terminal end of a cable and the cable is configured to include a first fluid conductive path extending along the length of the cable such that when the elongated housing and cable component are assembled and the at least one sensor is a pressure sensor, the pressure sensor is capable of taking pressure readings adjusted for atmospheric pressure (Figures 1-4).

Regarding claim 94, Dickey et al. disclose where the electrical assembly is configured to be connectable to a power source (Figures 1-4).

Regarding claim 99, Dickey et al. disclose where the cable is connectable to an electrical connector on an end of the cable opposite the cable component the connector configured for interconnecting the cable with one or more electronic devices (Figure 1).

Regarding claim 100, Dickey et al. disclose where one or more electronic devices have at least one of personal computer, palm top

computer, a protocol converter and a communications device for communicating over a network (Column 3).

Regarding claim 102, Dickey et al. disclose where the connector provides for communication signals employing RS-485 protocol (Column 5).

Regarding claim 103, Dickey et al. disclose where the elongated housing is configured to include a sensor component which is engageable and disengageable with the first end, the sensor component configured to include the at least one sensor positionable therein (Figure 1).

Regarding claim 104, Dickey et al. disclose where the sensor component and the first end are configured where the connection between the one sensor and the computing is established upon engagement of the sensor component with the first end (Figures 1-4).

Regarding claim 105, Dickey et al. disclose an elongated housing, a computing unit, a main circuit and an electrical assembly (Figure 1).

Regarding claim 106, Dickey et al. disclose where the sensor component and the first end are configured where the connection between the at least one sensor and the computing is established upon engagement of the sensor component with the first end (Figure 1).

Regarding claim 108, Dickey et al. disclose a cable configured for engaging and disengaging the second end of the elongated housing where engagement of the cable with the second end establishes a

connection with terminal end of a cable the cable configured to include a plurality of power lines which are operably connected to the computing and which conduct power from a remote power source (Figures 1-4).

Regarding claim 115, Dickey et al. discloses where the electrical assembly is configured to be connectable to a power source (Figures 1-4).

Regarding claim 120, Dickey et al. disclose where the cable is connectable to an electrical connector on an end of the cable opposite the cable component the connector configured for interconnecting the cable with one or more electronic devices (Figure 1).

Regarding claim 124, Dickey et al. disclose an elongated housing, a computing unit a main circuit, an electrical assembly and a removable cable (Figures 1-4).

Regarding claim 134, Dickey et al. disclose where the electrical assembly is configured to be connectable to a power source (Figures 1-4).

Regarding claim 139, Dickey et al. disclose where the cable is connectable to an electrical connector on an end of the cable opposite the cable component the connector configured for interconnecting the cable with one or more electronic devices (Figure 1).

Regarding claim 143, Dickey et al. disclose where the elongated housing is configured to include a sensor component which is engageable and disengageable with the first end, the sensor component configured to include the at least one sensor positionable therein (Figure 1).

Regarding claim 144, Dickey et al. disclose where the sensor component and the first end are configured where the connection between the at least one sensor and the computing is established upon engagement of the sensor component with the first end (Figure 1).

Regarding claim 145, Dickey et al. disclose an elongated housing with first and second ends; at least one sensor positioned within the first end; a computing unit positioned in the elongated housing; a main circuit board positioned in the elongated housing; an electrical assembly; a removable cable (Figures 1-4).

Regarding claim 146, Dickey et al. disclose where the elongated housing is configured to include a sensor component which is engageable and disengageable with the first end, the sensor component configured to include the at least one sensor positionable therein (Figure 1).

Regarding claim 147, Dickey et al. disclose where the sensor component is configured to provide for the electrical connection between the one sensor and the computing unit upon engage engagement of the sensor component with the first end of the elongate housing (Figures 1-4).

Regarding claim 157, Dickey et al. disclose where the electrical assembly is configured to be connectable to a power source (Figures 1-4).

Regarding claim 162, Dickey et al. disclose where the cable is connectable to an electrical connector on an end of the cable opposite the

cable component the connector configured for interconnecting the cable with one or more electronic devices (Figure 1).

Regarding claim 166, Dickey et al. disclose an elongated housing with first and second ends; a computing unit positioned within the elongated housing; a main circuit board positioned within the elongated housing and an electrical assembly (Figures 1-4).

Regarding claim 168, Dickey et al. disclose where the electrical assembly is configured to be connectable to a power source (Figures 1-4).

Regarding claim 169, Dickey et al. disclose a cable component for engaging and disengaging the second end of the elongated housing where engagement of the cable component with second end establishes a connection with terminal end of a cable and the cable is configured to include a first fluid conductive path extending along the length of the cable such that when the elongated housing and cable component are assembled and the at least one sensor is a pressure sensor, the pressure sensor is capable of taking pressure readings adjusted for atmospheric pressure (Figures 1-4).

Regarding claim 180, Dickey et al. disclose where the cable is connectable to an electrical connector on an end of the cable opposite the cable component the connector configured for interconnecting the cable with one or more electronic devices (Figure 1).



Regarding claim 181, Dickey et al. disclose where the cable is connectable to an electrical connector on an end of the cable opposite the cable component the connector configured for interconnecting the cable with one or more electronic devices (Figure 1).

Regarding claim 185, Dickey et al. disclose where the elongated housing is configured to include a sensor component which is engageable and disengageable with the first end, the sensor component configured to include the at least one sensor positionable therein (Figure 1).

Regarding claim 186, Dickey et al. disclose where the sensor component and the first end are configured where the connection between the one sensor and the computing is established upon engagement of the sensor component with the first end (Figures 1-4).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 88,107,109,126-128,149-151,170 and 171 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickey et al. in view of Brundage.

Regarding claim 88, Dickey et al. do not disclose a spring loaded contact extending from the main circuit board towards the second end of the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end. However, Brundage discloses in "Electrical component system with rotatable electrical contacts" a spring loaded contact extending from the main circuit board towards the second end of the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end (Figures 1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al. to include this limitation. By adding this feature the apparatus would be able to establish a good electrical contact.

Regarding claim 107, Dickey et al. do not disclose where the sensor component is rotatably engageable and disengageable with the first end of the elongated housing. However, Brundage discloses where the sensor component is rotatably engageable and disengageable with the first end of the elongated housing (Claim 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al to include where the sensor component is rotatably engageable and disengageable with the first end of the elongated housing as taught by Brundage. By adding this feature the user would be

able to construct an apparatus with a component, which can be connected and disconnected with ease.

Regarding claim 109, Dickey et al. do not disclose a spring loaded contact extending from the main circuit board towards the second end of the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end. However, Brundage discloses a spring loaded contact extending from the main circuit board towards the second end of the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end (Figures 1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al. to include this limitation. By adding this feature the apparatus would be able to establish a good electrical contact.

Regarding claim 126, Dickey et al. do not disclose where the sensor component is rotatably engageable with the second end of the elongated housing. However, Brundage discloses where the sensor component is rotatably engageable with the second end of the elongated housing (Claim 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al to include where the sensor component is rotatably engageable with the second end of the elongated housing as taught by

Brundage. By adding this feature the user would be able to construct an apparatus with a component, which can be connected and disconnected with ease.

Regarding claim 127, Dickey et al. disclose where the engagement of the removable cable assembly with the second end of the elongated housing exerts sufficient compressive force between the at least one electrical contact and the one or more electrodes of the one or more energy storage units so as to establish an electrical connection. However, Brundage discloses where the engagement of the removable cable assembly with the second end of the elongated housing exerts sufficient compressive force between the at least one electrical contact and the one or more electrodes of the one or more energy storage units so as to establish an electrical connection (Column 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al. to include where the engagement of the removable cable assembly with the second end of the elongated housing exerts sufficient compressive force between the at least one electrical contact and the one or more electrodes of the one or more energy storage units so as to establish an electrical connection as taught by Brundage. By adding this feature the apparatus would be able to have a secure electrical connection.

Regarding claim 128, Dickey et al. do not disclose a spring loaded contact extending from the main circuit board towards the second end of the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end. However, Brundage discloses a spring loaded contact extending from the main circuit board towards the second end of the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end (Figures 1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al. to include this limitation. By adding this feature the apparatus would be able to establish a good electrical contact.

Regarding claim 149, Dickey et al. do not disclose where the sensor component is rotatably engageable with the second end of the elongated housing. However, Brundage discloses where the sensor component is rotatably engageable with the second end of the elongated housing (Claim 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al to include where the sensor component is rotatably engageable with the second end of the elongated housing as taught by Brundage. By adding this feature the user would be able to construct an

apparatus with a component, which can be connected and disconnected with ease.

Regarding claim 150, Dickey et al. disclose where the engagement of the removable cable assembly with the second end of the elongated housing exerts sufficient compressive force between the at least one electrical contact and the one or more electrodes of the one or more energy storage units so as to establish an electrical connection. However, Brundage discloses where the engagement of the removable cable assembly with the second end of the elongated housing exerts sufficient compressive force between the at least one electrical contact and the one or more electrodes of the one or more energy storage units so as to establish an electrical connection (Column 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al. to include where the engagement of the removable cable assembly with the second end of the elongated housing exerts sufficient compressive force between the at least one electrical contact and the one or more electrodes of the one or more energy storage units so as to establish an electrical connection as taught by Brundage. By adding this feature the apparatus would be able to have a secure electrical connection.

Regarding claim 151, Dickey et al. do not disclose a spring loaded contact extending from the main circuit board towards the second end of

the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end. However, Brundage discloses a spring loaded contact extending from the main circuit board towards the second end of the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end (Figures 1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al. to include this limitation. By adding this feature the apparatus would be able to establish a good electrical contact.

Regarding claim 170, Dickey et al. disclose where the engagement of the removable cable assembly with the second end of the elongated housing exerts sufficient compressive force between the at least one electrical contact and the one or more electrodes of the one or more energy storage units so as to establish an electrical connection. However, Brundage discloses where the engagement of the removable cable assembly with the second end of the elongated housing exerts sufficient compressive force between the at least one electrical contact and the one or more electrodes of the one or more energy storage units so as to establish an electrical connection (Column 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al. to include where the engagement of the

removable cable assembly with the second end of the elongated housing exerts sufficient compressive force between the at least one electrical contact and the one or more electrodes of the one or more energy storage units so as to establish an electrical connection as taught by Brundage. By adding this feature the apparatus would be able to have a secure electrical connection.

Regarding claim 171, Dickey et al. do not disclose a spring loaded contact extending from the main circuit board towards the second end of the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end. However, Brundage discloses a spring loaded contact extending from the main circuit board towards the second end of the housing and positioned to contact one or more of the electrodes of the one or more energy storage units components upon insertion through the opening of the second end (Figures 1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dickey et al. to include this limitation. By adding this feature the apparatus would be able to establish a good electrical contact.

5. Claims 89-93,95-97,101,110-114,116-118,121-123,129-133,135-137,140-142,152-156,158-160,163-165,175-179 and 182-184 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dickey et al. in view of Owens et al.



Regarding claim 89, Dickey et al. do not disclose where the electrical assembly includes at least one capacitor device configured to supply energy to the computing unit for a period of time. However, Owens et al. disclose in "Downhole power and communication system" where the electrical assembly includes at least one capacitor device configured to supply energy to the computing unit for a period of time (Figures 1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify Dickey et al. to include this limitation as taught by Owens et al. By adding this feature the apparatus would be given power on an intermittent basis.

Regarding claim 90, Dickey et al. disclose where the computing unit includes a real time clock/calendar and the at least one capacitor has a sufficiently large capacitance to supply, when fully charged, power requirements of the real time clock/calendar for a duration (Column 4, 20). An exact time of at least about 30 minutes is not disclosed. However, it would be well within the purview of the skilled artisan to have the apparatus have a time duration of at least 30 minutes or more according to the specifications of the device.

Regarding claim 91, Dickey et al. disclose where the power supply and the computing unit are located on the main circuit board (Column 4).

Regarding claim 92, Dickey et al. do not disclose where the elongated housing fits inside a circle having a diameter of no larger than

about 1 inch. However, it is considered a design choice to have the housing fit into a circle of various sizes to accommodate the users needs.

Regarding claim 93, Dickey et al. do not disclose where the elongated housing has a substantially tubular shape. However, it is considered a design choice to have the elongated housing have a substantially tubular shape to accommodate the user needs.

Regarding claim 95, Dickey et al. do not disclose the voltage in which the apparatus operates. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific voltage.

Regarding claim 96, Dickey et al. do not disclose that the energy storage units are two AA cells. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific cell.

Regarding claim 97, Dickey et al. do not disclose where the electrical circuit has a flex circuit configured to run from the second end of the elongated housing to the monitoring assembly in the first end of the housing. However, it would have been obvious to one of ordinary skill in the art to have the a flex circuit since this would allow the device to be able to placed in the measuring state without being damaged if it was more rigid.

Regarding claim 101, Dickey et al. do not disclose including a vent cap attachable to the connector. However, it would have been well within

the purview of the skilled artisan to modify Dickey et al. to include a vent cap in order to relieve the apparatus of any pressure.

Regarding claim 110, Dickey et al. do not disclose where the elongated housing fits inside a circle having a diameter of no larger than about 1 inch. However, it is considered a design choice to have the housing fit into a circle of various sizes to accommodate the users needs.

Regarding claim 111, Dickey et al. do not disclose where the elongated housing has a substantially tubular shape. However, it is considered a design choice to have the elongated housing have a substantially tubular shape to accommodate the users needs.

Regarding claim 112, Dickey et al. do not disclose where the electrical assembly includes at least one capacitor device configured to supply energy to the computing unit for a period of time. However, Owens et al. disclose where the electrical assembly includes at least one capacitor device configured to supply energy to the computing unit for a period of time (Figures 1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify Dickey et al. to include this limitation as taught by Owens et al. By adding this feature the apparatus would be given power on an intermittent basis.

Regarding claim 113, Dickey et al. disclose where the computing unit includes a real time clock/calendar and the at least one capacitor has a sufficiently large capacitance to supply, when fully charged, power

requirements of the real time clock/calendar for a duration (Column 4, 20).

An exact time of at least about 30 minutes is not disclosed. However, it would be well within the purview of the skilled artisan to have the apparatus have a time duration of at least 30 minutes or more according to the specifications of the device.

Regarding claim 114, Dickey et al. disclose where the power supply and the computing unit are located on the main circuit board (Column 4).

Regarding claim 116, Dickey et al. do not disclose the voltage in which the apparatus operates. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific voltage.

Regarding claim 117, Dickey et al. do not disclose that the energy storage units are two AA cells. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific cell.

Regarding claim 118, Dickey et al. do not disclose where the electrical circuit has a flex circuit configured to run from the second end of the elongated housing to the monitoring assembly in the first end of the housing. However, it would have been obvious to one of ordinary skill in the art to have the a flex circuit since this would allow the device to be able to placed in the measuring state without being damaged if it was more rigid.

Regarding claim 121, Dickey et al. disclose where one or more electronic devices have at least one of personal computer, palm top

computer, a protocol converter and a communications device for communicating over a network (Column 3).

Regarding claim 122, Dickey et al. do not disclose including a vent cap attachable to the connector. However, it would have been well within the purview of the skilled artisan to modify Dickey et al. to include a vent cap in order to relieve the apparatus of any pressure.

Regarding claim 123, Dickey et al. disclose where the connector provides for communication signals employing RS-485 protocol (Column 5).

Regarding claim 129, Dickey et al. do not disclose where the electrical assembly includes at least one capacitor device configured to supply energy to the computing unit for a period of time. However, Owens et al. disclose in where the electrical assembly includes at least one capacitor device configured to supply energy to the computing unit for a period of time (Figures 1-5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention to modify Dickey et al. to include this limitation as taught by Owens et al. By adding this feature the apparatus would be given power on an intermittent basis.

Regarding claim 130, Dickey et al. disclose where the computing unit includes a real time clock/calendar and the at least one capacitor has a sufficiently large capacitance to supply, when fully charged, power requirements of the real time clock/calendar for a duration (Column 4, 20).

An exact time of at least about 30 minutes is not disclosed. However, it would be well within the purview of the skilled artisan to have the apparatus have a time duration of at least 30 minutes or more according to the specifications of the device.

Regarding claim 131, Dickey et al. disclose where the power supply and the computing unit are located on the main circuit board (Column 4).

Regarding claim 132, Dickey et al. do not disclose where the elongated housing fits inside a circle having a diameter of no larger than about 1 inch. However, it is considered a design choice to have the housing fit into a circle of various sizes to accommodate the users needs.

Regarding claim 133, Dickey et al. do not disclose where the elongated housing has a substantially tubular shape. However, it is considered a design choice to have the elongated housing have a substantially tubular shape to accommodate the users needs.

Regarding claim 135, Dickey et al. do not disclose the voltage in which the apparatus operates. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific voltage.

Regarding claim 136, Dickey et al. do not disclose that the energy storage units are two AA cells. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific cell.

Regarding claim 137, Dickey et al. do not disclose where the electrical circuit has a flex circuit configured to run from the second end of

the elongated housing to the monitoring assembly in the first end of the housing. However, it would have been obvious to one of ordinary skill in the art to have the a flex circuit since this would allow the device to be able to placed in the measuring state without being damaged if it was more rigid.

Regarding claim 140, Dickey et al. disclose where one or more electronic devices have at least one of personal computer, palm top computer, a protocol converter and a communications device for communicating over a network (Column 3).

Regarding claim 141, Dickey et al. do not disclose including a vent cap attachable to the connector. However, it would have been well within the purview of the skilled artisan to modify Dickey et al. to include a vent cap in order to relieve the apparatus of any pressure.

Regarding claim 142, Dickey et al. disclose where the connector provides for communication signals employing RS-485 protocol (Column 5).

Regarding claim 152, Dickey et al. do not disclose where the electrical assembly includes at least one capacitor device configured to supply energy to the computing unit for a period of time. However, Owens et al. disclose in where the electrical assembly includes at least one capacitor device configured to supply energy to the computing unit for a period of time (Figures 1-5). Therefore, it would have been obvious tone

of ordinary skill in the art at the time the invention to modify Dickey et al. to include this limitation as taught by Owens et al. By adding this feature the apparatus would be given power on an intermittent basis.

Regarding claim 153, Dickey et al. disclose where the computing unit includes a real time clock/calendar and the at least one capacitor has a sufficiently large capacitance to supply, when fully charged, power requirements of the real time clock/calendar for a duration (Column 4, 20). An exact time of at least about 30 minutes is not disclosed. However, it would be well within the purview of the skilled artisan to have the apparatus have a time duration of at least 30 minutes or more according to the specifications of the device.

Regarding claim 154, Dickey et al. disclose where the power supply and the computing unit are located on the main circuit board (Column 4).

Regarding claim 155, Dickey et al. do not disclose where the elongated housing fits inside a circle having a diameter of no larger than about 1 inch. However, it is considered a design choice to have the housing fit into a circle of various sizes to accommodate the users needs.

Regarding claim 156, Dickey et al. do not disclose where the elongated housing has a substantially tubular shape. However, it is considered a design choice to have the elongated housing have a substantially tubular shape to accommodate the users needs.



Regarding claim 158, Dickey et al. do not disclose the voltage in which the apparatus operates. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific voltage.

Regarding claim 159, Dickey et al. do not disclose that the energy storage units are two AA cells. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific cell.

Regarding claim 160, Dickey et al. do not disclose where the electrical circuit has a flex circuit configured to run from the second end of the elongated housing to the monitoring assembly in the first end of the housing. However, it would have been obvious to one of ordinary skill in the art to have the a flex circuit since this would allow the device to be able to placed in the measuring state without being damaged if it was more rigid.

Regarding claim 163, Dickey et al. disclose where one or more electronic devices have at least one of personal computer, palm top computer, a protocol converter and a communications device for communicating over a network (Column 3).

Regarding claim 164, Dickey et al. do not disclose including a vent cap attachable to the connector. However, it would have been well within the purview of the skilled artisan to modify Dickey et al. to include a vent cap in order to relieve the apparatus of any pressure.

Regarding claim 165, Dickey et al. disclose where the connector provides for communication signals employing RS-485 protocol (Column 5).

Regarding claim 175, Dickey et al. do not disclose where the elongated housing fits inside a circle having a diameter of no larger than about 1 inch. However, it is considered a design choice to have the housing fit into a circle of various sizes to accommodate the users needs.

Regarding claim 176, Dickey et al. do not disclose where the elongated housing has a substantially tubular shape. However, it is considered a design choice to have the elongated housing have a substantially tubular shape to accommodate the users needs.

Regarding claim 177, Dickey et al. do not disclose the voltage in which the apparatus operates. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific voltage.

Regarding claim 178, Dickey et al. do not disclose that the energy storage units are two AA cells. However, it is well within the purview of the skilled artisan to have the apparatus operate at any specific cell.

Regarding claim 179, Dickey et al. do not disclose where the electrical circuit has a flex circuit configured to run from the second end of the elongated housing to the monitoring assembly in the first end of the housing. However, it would have been obvious to one of ordinary skill in the art to have the a flex circuit since this would allow the device to be

able to placed in the measuring state without being damaged if it was more rigid.

Regarding claim 182, Dickey et al. disclose where one or more electronic devices have at least one of personal computer, palm top computer, a protocol converter and a communications device for communicating over a network (Column 3).

Regarding claim 183, Dickey et al. do not disclose including a vent cap attachable to the connector. However, it would have been well within the purview of the skilled artisan to modify Dickey et al. to include a vent cap in order to relieve the apparatus of any pressure.

Regarding claim 184, Dickey et al. disclose where the connector provides for communication signals employing RS-485 protocol (Column 5).

6. Claims 98,119,125,138,148,161 and 167 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to André K. Jackson whose telephone number is (571) 272-2196. The examiner can normally be reached on Mon.-Thurs. 7AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.J. 

February 17, 2004

  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800